

REMARKS

Claims 1-25 are pending in this application, of which claims 1 and 3 have been amended.

Claims 12-21 have been withdrawn from consideration. No new claims have been added.

Claims 1, 3, 7-11, 23 and 25 stand rejected under 35 USC §112, first paragraph, for failing to comply with the written description requirement.

The Examiner urges that the limitation, “an upper clad layer ... having a surface height continuously decreasing toward the photodetector...” recited in claims 1 and 3, is not sufficiently disclosed in the specification to enable one skilled in the art to make and/or use the invention.

This limitation is based on the style of the surface height of the tapered InP clad layer 58 of the semiconductor photodetecting device according to the second embodiment. FIGS. 7 and 8 show that the InP clad layer 58 has a surface height which continuously decreases toward the photodetector.

Accordingly, claims 1 and 3 have been amended to include a new limitation, “the upper clad layer ... having a surface height continuously decreasing toward the photodetector over the whole range from near the photodetector to near the light incidence end surface of the tapered optical waveguide.”

The InP clad layer 58 is shown in FIGS. 7 and 8 so that the style of the surface height of the tapered InP clad layer 58 is completely different from those of the InP clad layer 20a shown in FIGS. 1 and 2 and the InP clad layer 110 shown in FIG. 19. That is, the tapered InP clad layer 58 is shown so that the surface height of the InP clad layer 58 is decreasing toward the

photodetector, while the InP clad layers 20a, 110 are shown so that their surfaces are substantially flat.

Additionally, in the specification, the term “tapered” is not used as an adjective for the InP clad layers 20a, 110, but is used as an adjective for the InP clad layer 58. This usage of the term “tapered” for the InP clad layer emphasizes the difference between the styles of the surface height of the clad layer disclosed in the drawings.

The newly added limitation regarding the decrease of the surface height of the upper clad layer, “... over the entire range from near the photodetector to near the light incidence end surface of the tapered optical waveguide ...,” is also easily understood by one of ordinary skill in the art from the description in the specification regarding the formation of the InP clad layer 58 with the growth speed distribution with respect to the position from the photodetector (page 29, line 18 to page 30, line 11). The term “tapered” used for the InP clad layer 58 supports the continuous decrease of the surface height over the whole range from near the photodetector to near the light incidence end surface of the tapered optical waveguide.

Based on the above mentioned basis, Applicants respectfully submit that the limitation, “an upper clad layer ... having a surface height continuously decreasing toward the photodetector ...” recited in claims 1 and 3 is sufficiently disclosed in the specification and the drawings of the present application and claims 1 and 3 and dependent claims 7-11, 23 and 25 comply with the written description requirement, and the 35 USC §112, first paragraph, rejection should be withdrawn.

Claims 1 and 7-11 stand rejected under 35 USC §102(e) as anticipated by U.S. Patent Publication U.S. 2003/0098408 A1 to Yasuoka et al. (hereinafter "Yasuoka et al.").

Applicants respectfully traverse this rejection.

The present invention according to amended claim 1 is distinguished from Yasuoka et al. in terms of the decreasing surface height of the upper clad layer.

As mentioned above, the surface height of the upper clad layer in amended claim 1 decreases toward the photodetector over the whole range from near the photodetector to near the light incidence end surface of the tapered optical waveguide.

On the other hand, Yasuoka et al. discloses in FIGS. 6 and 7 that an upper clad layer 12 has a flat surface portion on the side near to the light incidence end. In addition, the upper clad layer 12 disclosed in FIGS. 6 and 7 of Yasuoka et al. has an abrupt change in the surface height, i.e., there is a step in the surface of the upper clad layer 12. The upper clad layer 12 disclosed in Yasuoka et al. does not have a surface height continuously decreasing toward the photodetector over the whole range from near the photodetector to near the light incidence end surface.

Thus, the 35 USC §102(0) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-11 and 22-25, as amended, are in condition for allowance, which action, at an early date, is requested.

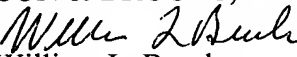
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. **10/624,553**
Response to Office Action dated December 3, 2004

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: RCE

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